

(iv) Remarks On The Amendment To The Specification

Table 1 of the specification is amended to remove the reference to "E" as it is not a nucleobase and contains no sequence information.

(v) Remarks On The Amendment To The Claims:

Applicant continues to traverse the restriction/election requirement. Accordingly, no claims have been canceled and amendments have been made to pending claims other than merely claims 1-15, 21-23 and 29-45.

Antecedent basis for amending "non-nucleic acid" to "PNA" in various claims can be found throughout the specification but in particular at page 14, lines 16-20.

Antecedent basis for adding the limitation "of 10 to 30 subunits in length" in various claims can be found throughout the specification but in particular at page 19, lines 19-32.

Antecedent basis for defining the formula of a PNA probe or PNA probes in various claims can be found throughout the specification but in particular at page 14, lines 21-25 wherein it is specifically stated: "including any of the polymers referred to or claimed as peptide nucleic acids in ... and 5,986,053; all of which are herein incorporated by reference." The formula for a PNA now inserted into the claims can be found in US 5,986,053 at col. 5, line 10 to col. 6, line 48, provided however that certain of the recited elements/limitations have been deleted so that the PNA oligomer would not be considered a PNA/DNA chimera. Applicant submits that this is a well-established definition of a PNA oligomer; one that is supported in the claims of numerous issued US patents.

Antecedent basis for amending "and" to "and/or" in claim 10 can be found throughout the specification but in particular at page 29, lines 21-23 wherein it is clear that a set can be designed for one, two or more human chromosomes.

The subunit "E" does not comprise a nucleobase and accordingly, the reference to "E" in nucleobase sequences 145, 146 and 150 has been deleted.

It is respectfully submitted that the amendment does not introduce new matter.

IV. RESPONSE TO THE OFFICE ACTION REJECTIONS

1. **Rejections Under 35 U.S.C. § 112, First Paragraph**

At paragraph 4 of the Office Action, the Examiner rejected claims 1-15, 21-23 and 29-45 under 35 U.S.C. § 112, first paragraph. Generally, the Examiner argued that the specification did not enable the full scope of the claimed subject matter. The claims, as amended, are now limited to PNA probes of a defined length and defined structure; a well accepted structure for PNA. Accordingly, it is believed that the amendments render moot the articulate rejections of paragraph 4 of the Office Action. Thus, it is believed that this rejection should be withdrawn.

At paragraph 5 of the Office Action, the Examiner rejected claims 1-15, 21-23 and 29-45 under 35 U.S.C. § 112, first paragraph. Generally, the Examiner reiterated much of the argument of paragraph 4 of the Office Action, arguing lack of possession as compared with lack of enablement, but in particular appears to argue that claims 10, 21, 34, 35 and 45 are deficient because they are not limited to specific nucleobase sequences. Claims 10, 21, 34, 35 and 45 have been amended as discussed above. However, Applicant further respectfully submits that the methods disclosed in the specification for generating sequences suitable for chromosome determination using PNA probes fully support the scope of the presently claimed subject matter and do not constitute undue experimentation. Accordingly it is believed that this rejection should properly be withdrawn.

2. **Rejection Under 35 U.S.C. § 102(b)**

(a) Statement Of The Law Of 35 U.S.C. § 102(b)

It is well settled that to be anticipated, a prior art reference must teach each and every element/limitation of the claimed subject matter. M.P.E.P. § 2131. Moreover, the elements must be arranged as required by the claim. *Id.* "The identical invention must be shown in as complete detail as is contained in the claim" *Id.* quoting from *Richardson v. Suzuki Motor Co.*, 868 F2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

(b) The Rejection

At paragraph 7 of the present Office Action the Examiner rejected claims 1, 4-11, 13-15, 36-43 and 45 under 35 U.S.C. § 102(e) as being anticipated by Hyldig-Nielsen et al.

(US 5,985,563). It is respectfully submitted that the present amendments render moot the articulated rejection. Accordingly, it is believed that the rejection should be withdrawn.

V. SUMMARY

It is believed that this response addresses all rejections set forth in the present Office Action and the application is in ready condition for allowance. In consideration of the preceding amendments and remarks, Applicant hereby respectfully requests reconsideration of all pending claims (as amended), the withdrawal of all rejections set forth in the present Office Action and issue of a Notice of Allowance by The Office.

VI. INTERVIEW

If the Examiner believes a telephonic or personal interview would advance the prosecution of the subject application, the Examiner is invited to contact attorney Gildea during business hours at the telephone or facsimile numbers listed below.

VII. FEES

The petition under 37 C.F.R. §1.136(a) that accompanies this paper includes an authorization to deduct the appropriate fee from Deposit Account 02-3240. A supplemental IDS accompanies this paper and includes an authorization to deduct the appropriate fee from Deposit Account 02-3240. No additional fees are believed due The Office for consideration of this paper. If however, The Office determines that any other fee is due, authorization is hereby granted to charge any required fee associated with the filing or proper consideration of this paper to Deposit Account 02-3240.

VIII. CORRESPONDENCE/CUSTOMER NUMBER

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Respectfully submitted
on behalf of Applicant,

Oct 9, 2003
Date

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